

Suggested edits for General Mills FYR (L Evison September 2014)

1. Page vii, Issue 5: The wording of this issue may be confusing. I recommend you clarify it by repeating the word "groundwater, i.e., "Groundwater cleanup levels for vapor intrusion pathway have not been established."
2. Page vii, Issue 7: Clarify that this is about human health pathways.
3. Page vii: I recommend you add an issue that insufficient data exist to characterize groundwater that is an ongoing source to contaminants in soil gas. The corresponding recommendation would be to conduct an RI/FS to evaluate this. (This is already part of your protectiveness statement for air.)
4. Page viii, Protectiveness Statement for Soil: I recommend you remove (or clarify) the first sentence that now reads "No soil cleanup levels were specified in the Consent Order". While this is true, it implies that there should have been, whereas your assessment is that no action was a protective decision.
5. Page viii, Protectiveness Statement for Air: I recommend you clarify the phrase "including a risk assessment" to clarify that the pathway for which a risk assessment is missing is groundwater as an ongoing source to soil gas/air.
6. Page 1, Section 1.2, Authority for Conducting the Five-Year Review: I recommend you clarify this section by explaining after the first quote that even though the "President" (i.e. EPA as his or her representative) did not select a remedial action for this site, it is MPCA policy (or required by MERLA?) to conduct five-year reviews. Also, please correct the statement that "The MPCA interpreted this requirement further in the NCP..." It should say EPA here.
7. Page 1, Section 1.3, Who Conducted the Five-Year Review: I recommend you briefly explain at the end of this paragraph that this Site is part of an Enforcement Deferral Pilot Project whereby MPCA leads management of the Site.
8. Page 2, last paragraph. Please clarify this by adding "...or where hazardous substances remain at the site above levels that allow for unlimited use and unrestricted exposure." (Five-year reviews should be done at this Site even after completion of Remedial Action because ICs are needed.)
9. Page 4, Section III.2, Land and Resource Use: I recommend you add a map showing which portion is zoned residential. (This is to make it clear it is not the affected soil area.)
10. Page 6, Section IV.1, Remedy Selection: Add a very brief explanation of the basis of the cleanup levels here (this comes later in the FYR, but would be good here too) and a sentence to explain that the RAP pre-dated the establishment of a drinking water standard for TCE (I think the federal drinking water standard for TCE was published in 1987 and finalized in 1989?).

11. Page 8, third full paragraph: I recommend you add the geographical direction of flow for the Magnolia Member (just saying toward those wells makes it sound like they are pumping).
12. Page 8-9, Section IV.3, Institutional Controls: It appears that the Special Well and Boring Construction Area for TCAAP does not include any restriction on wells into the aquifers contaminated at this Site. If that is correct, I recommend you add an issue and recommendation to work with MDH to evaluate whether the SWBCA should be expanded to additional aquifers. Also, although the use of the site property is consistent with the restrictive covenant, it appears that part of the zoning may not be. If that is the case, I recommend you add to an issue and recommendation to evaluate a zoning revision for that part of the site property where they are inconsistent.

Also it would be good to incorporate a brief discussion of these issues on page 24, Section VII.1.5, Implementation of ICs.

13. Page 11, Section V., Progress since the Last FYR: The last sentence of the intro paragraph is confusing. I recommend you add the underlined words, so it reads "Because the Fourth FYR Report was not finalized, this section will summarize the concerns from the final Third FYR conducted in 2004, the draft Fourth FYR conducted in 2009, and any additional progress since that time.
14. Page 12, Issue section: Are the statements from 2009 quotes, like the ones from 2004? If so, I recommend you italicize or add quote marks. As it is now, it is confusing to have the 2004 statements be clearly quotes but not the 2009 statements.
15. Page 13, Issues 7 & 8 (data/figures/trend analysis): The 2014 update for Issue 7 states that a summary of all the compounds detected were not presented in figures as recommended and the 2014 update for Issue 8 states that long-term trend analysis was not performed. I recommend that you add a statement clarifying that these things are still needed. (On p. 24, you do recommend trend analysis, but I recommend you add it here too.)
16. Page 16, Section VI.3, Document Review: This paragraph states that "RAOs, ARARs and cleanup levels used to were obtained from the 1984 Consent Order." I recommend you revise this or add to it to explain that the Consent Order did not include ARARs for groundwater because it predated them.
17. Page 17, Section VI.4.2, Groundwater Monitoring: I recommend that this section clarify that the plume does not reach the river and cite the data that is based on.
18. Page 18, bullets describing glacial drift & Carimona well results: In these bullets, decreases are not characterized but increases are characterized as "possible increases", even when the relative change is similar to the decreases. This inconsistency gives the appearance of bias. I

recommend you remove the word “possible” and add a general statement that statistical trend analysis has not been performed but should be.

19. Page 18-19, Prairie du Chien Group: At the beginning of this section, it states that the PdC “is separated from the glacial drift by three confining units”. Since we know that contamination exists in the overlying St. Peter, I recommend that you also describe what separates it from the St. Peter. Also, I recommend you add information about what concentrations of TCE may be present in the PdC immediately upgradient of the Site (or the nearest upgradient monitoring well).
20. Page 19, end of first paragraph: In the last sentence, I recommend you clarify what formation the flow velocity applies to (presumably the drift?)
21. Page 20, Section VI.5, Site Inspection, first bullet: The second sentence states that “According to Barr, at the time of the inspection, periodic groundwater monitoring indicates the groundwater plume remains stable/receding and contaminant concentrations are declining.” Barr may have made this generalization at the inspection, but I recommend you revise the statement to add “largely” or “mostly” before the word declining. Otherwise it appears to contradict the data section. Also, the last sentence states that “the groundwater remedy is effective and functioning as designed.” I recommend this be reworded to the past tense or otherwise revised to clarify that the system met the shut-down criteria of the Consent Order and is not operating at present.
22. Page 20, Section VI.5, Site Inspection, third bullet: I recommend you add the underlined portion to the last sentence that states “Vapor intrusion assessment activities should evaluate whether pump-out and treatment system or other actions will enhance existing vapor mitigation activities.” This would make this more consistent with the section that discusses limitations of pump and treat systems.
23. Page 22, Section VI.1.1, Remedial Action Performance: I recommend that you add the underlined portion to the last sentence that states “...an increase in contaminant concentrations may be occurring in some areas.”
24. Page 24, Section VII.2.1, Changes and Standards To Be Considered: I recommend you add a statement to the first paragraph to clarify that drinking water standards are not an ARAR under the Consent Order.
25. Page 25, Section VII.2.2, Changes in Exposure Pathways, Groundwater: I have a comment on this that will be sent later.
26. Page 25, same section, Vapor Intrusion: The last sentence of this page states that “However, some monitoring of the TCE levels in outdoor air near these systems would appear to be warranted.” Is this already in the planning stages with General Mills? If so, add that.

27. Page 26, same section, Air: I have a comment on this that will be sent later.
28. Page 26, Section VII.2.3, Changes in Toxicity: I recommend that you add information about what this means for the Site, e.g., that it presumably led to issuance by MDH of the new HBV and was used in developing action levels for the recent vapor work.
29. Page 27, Section VII.2.4, Changes in Risk Assessment Methods: This section states in part “It should be noted that the use of ADAFs has not been uniformly accepted by states.” and “The use of ADAFs results in more health protective values than the use of the unadjusted cancer slope factors or units.” I recommend you add information about how this applies to the Site, i.e., whether MDH uses ADAFs.
30. Page 27, Section VII.2.5, Expected Progress Towards Meeting RAOs: I recommend that you add the underlined part to the first sentence “The primary RAOs for this site (as noted in Section IV.1) are the containment of VOCs that exceed the cleanup levels of the Consent Order and ...”
31. Page 28, same section: I have a comment on this that will be sent later.
32. Page 28, Table 4: I recommend you clarify this table. It is unclear what the second groundwater and second air lines mean, i.e., what is previously 30 ug/L but is now 18 ug/L, etc.
33. Page 28, Section VII.3, Question C: This paragraph states in part “... the Site groundwater cleanup levels were not set at drinking water MCLs.” This statement may lead people to believe that an MCL existed but the Consent Order did not choose to use it. I recommend you clarify this to explain that the Site groundwater cleanup levels were set at a 10⁻⁶ risk level for the drift and 10⁻⁴ cancer risk level for the Carimona, using the toxicity information available at the time.
- I have a further comment on this that will be sent later.
34. Page 28, Section VII.4, Technical Assessment Summary: I recommend you add the underlined portion to the sentence “There were no changes in federal standards identified in this five-year period; however, there were changes in toxicity for TCE and changes in State standards.”
35. Page 32, Section IX, Protectiveness Statements: I have a comment on this that will be sent later.